

Implications of Findings for the Management of Water and Ecological Resources

Stream conditions for fish appear to have improved some since the 1970s largely as a result of wastewater-treatment-plant upgrades implemented under provisions of the Clean Water Act (CWA).

However, changes in the natural flow of streams, habitat degradation, reduction in biological diversity, and a shift toward species more tolerant of disturbance are associated with urban and suburban development. Given the prospect for increasing population growth in the region, land-use changes associated with urban development will continue to have a measurable effect on water quality and aquatic communities.

What might we do to help?

Encourage a closer linkage and integration of land-use planning and watershed-management goals and strategies, to further awareness and ideas that favor improvement of water and environmental quality.

Apply techniques that increase recharge and otherwise reduce runoff in new or existing developments to increase stream base flow and reduce streamflow variability, both of which would benefit aquatic communities. Increased aquifer recharge also would benefit water supply if the quality of that recharge is not impaired.

Promote policies that prevent the loss of or restore forest and wetland function and area, especially in riparian corridors, to moderate the effects of development and provide improved habitat for plants and animals. For example, by providing shade, natural organic detritus, diverse habitat, a dampening of runoff, and filtration of contaminants, riparian forest and wetland areas playing a major role in maintaining a healthy supply of water, food, and habitat that favors disturbance-intolerant and highly desired aquatic species.

Establish performance measures and increase vigilance in terms of monitoring and assessment of water and related resources to measure progress, especially as related to the performance of lower intensity development practices and techniques.



New urban areas commonly are displacing agricultural and (or) forest land in the study area. Specifically, urban land area has grown from 22% of the study area in the early 1970s to 33% in 1995, with a corresponding 11% decrease in agricultural and forest land.